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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/805,188	03/14/2001	Hiroshi Morioka	501.30598CC3	2601

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EXAMINER

NGUYEN, TU T

ART UNIT PAPER NUMBER

2877

DATE MAILED: 02/13/2003

Please find below and/or attached an Office communication concerning this application or proceeding.

# Office Action Summary

Application No.

09/805,188

Applicant(s)

MORIOKA ET AL.

Examiner

Tu T Nguyen

Art Unit

2877

-- The MAILING DATE of this communication appears on the cover sheet with the corresponding address --

## Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

## Status

- 1) ☒ Responsive to communication(s) filed on 26 November 2002.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

## Disposition of Claims

- 4) ☒ Claim(s) 1-27 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-27 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

## Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
- Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- 11) ☐ The proposed drawing correction filed on \_\_\_\_\_ is: a) ☐ approved b) ☐ disapproved by the Examiner.
- If approved, corrected drawings are required in reply to this Office action.
- 12) ☐ The oath or declaration is objected to by the Examiner.

## Priority under 35 U.S.C. §§ 119 and 120

- 13) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some \* c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☒ Certified copies of the priority documents have been received in Application No. 08/535,577.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- \* See the attached detailed Office action for a list of the certified copies not received.
- 14) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application).
- a) ☐ The translation of the foreign language provisional application has been received.
- 15) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

## Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO-1449) Paper No(s) \_\_\_\_\_
- 4) ☐ Interview Summary (PTO-413) Paper No(s). \_\_\_\_\_
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other:

Detailed Office Action

*Election/Restriction*

The election filed on 11/26/02 is acknowledge. Applicant's argument has been considered and the restrictions on 04/18/02 and 08/26/02 have been withdrawn. Claims 1-27 is pending.

*Claim Rejections - 35 USC § 103*

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

Claims 1-27 are rejected under 35 U.S.C. 103(a) as being unpatentable over Kamoshida (4,571,685) in view of Koizumi et al (4,614,427).

With respect to claim 1, Kamoshida discloses a processing method for semiconductor devices in a semiconductor fabrication line, comprising the steps of: processing a substrate in a first processing apparatus (abstract), transferring the substrate processed in the first processing apparatus to a detecting apparatus without removal of the substrate from the semiconductor fabrication line while continuing fabrication of the semiconductor devices 79 (fig 9). Koizumi discloses a system for detecting a foreign particles (columns 1-2). It would have been obvious to modify Kamoshida with Koizumi to increase yield. Kamoshida discloses a CPU 100 (fig 9)

for storing and transferring the data between the systems (column 4, lines 30-40). It would have been obvious to modify Kamoshida's computer system for storing the amount of the foreign particle defects for utilizing the testing.

With respect to claims 2,5,23, since Koizumi discloses focusing an incident light in a spot on a wafer (column 3, lines 12-15), Koizumi inherently discloses detection is performed in a predetermined area of the substrate.

With respect to claim 3, Kamoshida does not explicitly disclose a processing time. However, the skill artisan would have been motivated to have a completed detecting step within a processing time in the processing step to be ready for transferring the information to the next step.

With respect to claims 4,26, refer to discussion in claim 1 above. Further, Kamoshida discloses controlling the processing step based on the information on the finishing product (column 4, lines 30-40). It would have been obvious to modify Kamoshida to control the operation of the semiconductor fabrication line in accordance with the data of foreign particle defects to increase the yield.

With respect to claim 6, refer to discussion in claim 1 above for detecting the particle defects. Further, Koizumi does not disclose counting the defects. Counting the defects on the wafer would have been known. It would have been obvious a design choice to modify

Kamoshida's system to count the defects to give more detail about the condition of the wafer.

With respect to claim 7, refer to discussion in claim 1 for storing the data in the memory.

With respect to claim 8, refer to discussion in claim 1 above for detecting foreign particle. Further Kamoshida does not disclose performing in real time. However, detecting foreign particle in real time would have been known. It would have been obvious to modify Kamoshida's system to detect the particle in real time to save the testing time.

With respect to claim 9, Since Koizumi discloses using a detector for detecting the particle, Koizumi inherently discloses the claimed invention.

With respect to claim 10, refer to discussion in claim 1.

With respect to claim 11, the skill artisan would have been motivated to modify Koizumi's system to output the signal indicating the condition of the wafer as claimed. The modification involves only routine skill in the art.

With respect to claims 12-13, refer to discussion in claim 1.

With respect to claims 14,19, Koizumi inherently discloses the claimed limitation.

With respect to claims 15-18,20-22, refer to discussion in claim 1.

With respect to claim 24, Koizumi does not explicitly disclose a linear image sensor. However, a linear image sensor would have been known. It would have been obvious to modify Koizumi with the known linear sensor to utilize the detection.

With respect to claim 25, Kamoshida does not explicitly disclose the first apparatus is an etching apparatus. However, it would have been obvious a design choice to have Kamoshida's first process as an etching apparatus.

With respect to claim 27, Koizumi does not explicitly disclose obtaining information of distribution of foreign particle defects. However, it would have been a design choice to modify Koizumi to manipulate the detected data for different purposes. The modification involves only routine skill in the art. Further, refer to discussion in claim 8 for the real time.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Tu T Nguyen whose telephone number is (703) 306-9185. The examiner can normally be reached on M-T 7:30-5:30.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Frank G Font can be reached on (703) 308-4881. The fax phone numbers for the organization where this application or proceeding is assigned are (703) 872-9318 for regular

communications and (703) 872-9319 for After Final communications.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is (703) 308-0956.

A handwritten signature in black ink, appearing to read 'Tuan Nguyen', with a long, sweeping horizontal stroke extending to the right.

**Tu Tuan Nguyen**

**Patent Examiner TC 2877**

**2/8/03**